

REMARKS

By the present amendment, claims 1, 3, 4 and 5 are pending in the application.

Claims 1 and 3 are independent claims.

Claim Amendments

Independent claims 1 and 3 have been amended to clarify the preamble.

Independent claims 1 and 3 have been amended to be restricted to --a hydroxide of at least one of titanium, zirconium and/or silicon. Support for titanium and zirconium may be found in now canceled dependent claim 6.

Independent claims 1 and 3 have been amended to delete the product -by-process type claim limitation directed to “a liquid phase process”.

Claims 2 and 6 have been canceled.

§112, ¶2

Claims 1 to 6 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Office Action maintained that the preamble of claims 1 to 3 was unclear.

By the present amendment, the preamble of independent claims 1 and 3 has been amended to improve clarity. Claim 2 has been canceled.

In view of the present amendment, it is respectfully request that the rejection under 35 U.S.C. §112, second paragraph, as applied to pending amended claims 1, 3, 4 and 5, be withdrawn.

§112, ¶1

Claims 1 to 6 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The Office Action objected to the product-by-process type claim limitation directed to “a liquid phase process” in claims 1, 2 and 3.

By the present amendment, independent claims 1 and 3 have been amended to delete the product-by-process type claim limitation directed to “a liquid phase process”. Claim 2 has been canceled.

In view of the present amendment, it is respectfully requested that the rejection under 35 U.S.C. §112, first paragraph, as applied to pending amended claims 1, 3, 4 and 5 be withdrawn.

§102/§103

Claims 1 to 6 were rejected under 35 U.S.C. §102(b) as being anticipated by Japan No. 2001-348678 to Yano et al.

Claims 2 and 5 were rejected under 35 U.S.C. §102(b) as being anticipated by Japan No. 04-032577 to Sato et al.

Claims 4 to 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Japan No. 2001-348678 to Yano et al.

Claims 2 and 5 were rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Japan No. 04-032577 to Sato et al.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Japan No. 04-032577 to Sato et al.

Claims 1 and 6 were rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 3,900,630 to Makishima et al.

These rejections, as applied to the amended claims, are respectfully traversed.

Patentability

Yano et al. (hereafter called “Yano”, JP 2001-348678 A), cited by the Office Action relates to a precoated steel sheet comprising a plated steel sheet provided with a plating layer containing, in mass %, 4-10% Al, 1-4% Mg, 0.002-0.1% Ti, 0.001-0.45% B, and the balance of Zn, the plated steel sheet having on the plated layer a chemical conversion-treated layer, on which a resin film is formed.

In the precoated steel sheet of Yano, an intermetallic compound comprising Ti, such as Ti-Al, is deposited and is present on the surface of the plated steel sheet (paragraph 0021). However, Yano does not disclose or suggest the presence of any hydroxide on the surface of the plated steel sheet surface.

Further, in the chromium-free treatment, a process liquid contains, in addition to a resin, colloidal silica and others, an metal oxide, such as a silica-based, manganese-based, phosphoric acid-based, titanic acid-based, or zirconium oxide-based oxide. Regarding this chromium-free treatment, Yano also does not disclose or suggest a hydroxide.

In contrast, the precoated metal sheet of the present invention has, on at least one surface thereof, a precoating comprising an inorganic film of a hydroxide of one or more of Ti, Zr and Si. Thus, the precoated metal sheet of the present invention is not disclosed or suggested by Yano.

Sato et al. (hereinafter called “Sato”, JP 4-032577 A) cited by the Office Action) relates to a coated Al material or a coated Al alloy material provided with a resin coating, the material having a film based on a metal oxide or hydroxide between it and the resin coating.

However, Sato does not disclose or suggest using a hydroxide of Ti, Zr or Si for the hydroxide-based film.

Thus, the precoated metal sheet of the present invention is not disclosed or suggested by Sato.

Makishima et al. (hereinafter called “Makishima”, US 3,900,630) cited by the Office Action, relates to a decorative article and also does not disclose or suggest use of a hydroxide-based film, and is therefore irrelevant to the present invention.

Further, the decorative article of Makishima uses cracks on the surface thereof as a decorative pattern, whereas the cracks in the precoated metal sheet of the present invention are covered with the organic coating and are not visible. In addition, the patterned coating of Makishima is formed from an inorganic paint, whereas the top coat of the precoated metal sheet of the present invention is formed from an organic coat or paint.

Thus, the precoated metal sheet of the present invention is not disclosed or suggested by Makishima.

Summary

Yano et al., Sato et al. and Makishima et al., cited by the Office Action, neither disclose nor suggest the invention of the amended independent claims 1 and 3 of the present application. Thus, the invention of independent claims 1 and 3, and the dependent claims thereof, is not disclosed or suggested by Yano et al. or Sato et al., or Makishima et al., alone or in combination, and is patentable over Yano et al. and/or Sato et al. and/or Makishima et al.

Information Disclosure Statement


An Information Disclosure Statement having a Certificate of Mailing having an even date hereof is being filed in the above-identified patent application.

CONCLUSION

It is submitted that in view of the present amendment and foregoing remarks, the application is now in condition for allowance. It is therefore respectfully requested that the application, as amended, be allowed and passed to issue.

Respectfully submitted,

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Dated: June 19, 2008

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